

Training Medical Professionals to be Educators: Developing a Certification in Health Professions Education

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ABSTRACT

Many health science faculty members have gravitated to teaching because of a combined interest in their own professional discipline and their real enjoyment of teaching. They strive to improve their professional knowledge but continue to teach much as they were taught. This self-selection process is not entirely bad since we can find many dedicated and effective faculty in healthcare. However, self-selection is far from a good long range strategy for effective faculty development. The interdisciplinary Certificate in Health Professions Education (Certificate) program developed at the University of Louisville School of Medicine provides a replicable model for other schools to consider. This model includes curriculum, instructional design, program administration, and assessment of participants.

The Certificate, awarded by the University's Graduate School, is granted after participants complete four 3-credit hour graduate courses. Participants must be admitted to the Graduate School and must take the courses for graded credit. One course is offered each semester allowing students to enroll in fall or spring of any year rather than wait for a new two-year rotation to begin. Most participants qualify for institutional tuition remission. Student feedback and outcomes data since 2003 allowed us to validate the certification program. We believe this model is highly replicable for other academic health centers.

With the exception of those teaching in colleges of education, most college and university faculty are actually trained in professions other than education. Accountants teach accounting, musicians teach music, and lawyers teach law. Then, by default, faculty discover they have adopted a second professional discipline, the discipline of postsecondary education. For physicians, nurses, and other health sciences professionals, knowledge of postsecondary teaching is often learned on the job. Fortunately, many whose careers now include teaching chose that career path because they love to teach. This kind of self-selection provides a firm first step toward building a talented health sciences faculty, but it is far from an effective solution to faculty development in teaching and learning.¹

Although single professional development sessions on teaching are efficient because they deliver information in concentrated bits of time, they may not be the most effective way to address complex topics such as adult education or curriculum design. Professional development

sessions rarely require participants to conduct research or develop projects. Ironically, these activities are the very events that educators use to validate the effectiveness of instruction.²

More comprehensive approaches to training medical faculty are offered in programs such as the Medical Education Fellowship (MEF) at the David Geffen School of Medicine at UCLA³, and the Teaching Scholars program offered by the UC San Francisco School of Medicine.⁴ Both programs include a graduate level curriculum focused on learning theory, assessment, and educational leadership; and both programs accept participants, most of whom are healthcare faculty, through a competitive application process. The University of Washington Teaching Scholars Program (TSP) also provides medical faculty with advanced training in education theory, assessment, and research.⁵

The solution to the challenge of developing an effective health sciences faculty at University of Louisville addressed very similar needs, but used a more pragmatic

approach to program support and participant selection. U of L created an interdisciplinary certification program supported by both the College of Education and the School of Medicine. The Certificate, awarded by the Graduate School, is granted after participants complete four 3-credit hour courses. Participants must be admitted to the Graduate School and take all four courses for credit.

Unlike the California models, the U of L model was built on funding strategies already in place within the institution. Participants are recruited in an open rather than a competitive process, and, because most are already employed at least part time by the University, are able to take advantage of the institution's tuition remission policy to support their participation. Faculty support for teaching Certificate courses is shared by several participating departments. Unlike the Washington model, courses in the Certificate program are a part of the graduate curriculum so participants can use these credits as a foundation for other graduate degrees if they wish.

The Curriculum

The certification curriculum consists of four courses that rotate in a predetermined sequence. This structure allows participants to enroll in any term of any year rather than waiting for a two-year rotation (see Figure 1).

The courses are offered by the College of Education and Human Development (CEHD), but are customized with the health sciences faculty. For example, the course on Adult Education and Development includes a unit on clinical teaching issues such as bedside teaching and protocols for teaching with both actual and standardized patients (SPs). Techniques for teaching psychomotor skills (i.e. intubation) are included along with techniques for teaching cognitive skills such as quick recall.

The curriculum is both integrated and interdisciplinary. Current issues in medical education such as problem based learning (PBL) are integrated in several courses so participants can examine them from several perspectives such as instructional design and educational research. The curriculum is interdisciplinary because participants include physicians, dentists, nurses, and laboratory scientists. Members of the teaching team also come from medicine, nursing, medicine, public health, and education. Both faculty and students are encouraged to address content from multiple points of view. Thus, the value of the team approach utilized in healthcare delivery is modeled in the classroom.

The Instructional Design

The instructional design for the four courses is grounded on the principles of meeting instructional needs for working professionals as outlined by Cheetham and Chivers.^{6,7} The courses, based on the US semester system, include fourteen weekly sessions and apply several

teaching and assessment techniques, guided experiential learning, and a heavy emphasis on learner participation.

Using Online Instruction

Not all class meetings are face-to-face. Since 2004, the University of Louisville has automatically made available a Blackboard[®] web-based course shell for every course on the schedule. Faculty are encouraged to use this space as they wish. This ability to provide content and discussion via the Internet has been especially valuable in the Certificate courses. Faculty work with each semester calendar to decide which of the 14 class meetings could be conducted effectively via the Internet. For example, in the College Teaching course, one week is spent with participants doing web searches for faculty development sites and tools and sharing the best samples. Face-to-face class meetings are also supported by web based resources wherever possible. Most course web sites include a Course Library with pdf or Word[®] files of journal articles and readings.

Since many participants are practicing healthcare faculty, both predictable and unpredictable events may call them away from class. Participants are reminded to schedule their "on call" around nights on which the class meets, but this is not always possible. Participants (and instructors) also have occasional conferences and presentations throughout the semester. To accommodate this reality, two absences per semester are allowed if the instructor is notified two weeks in advance. Since almost all of the reading is available online, participants keep up with the discussion even when out of town.

Teaching on Location

Each of the four courses in the program offers at least one opportunity to leave the classroom and visit an instructional website or resource. For example, the patient simulation lab provides an ideal location for participants to practice instructional design skills and create a complete lesson plan for discipline specific teaching that utilizes highly sophisticated and realistic "programmable" patients. Standardized patients (actors trained to present as real patients) are also available to use as teaching tools.

The Research Methods course includes an introduction to using SPSS software (Statistical Package for the Social Sciences), and four sessions of this course are taught in a computer lab. Teaching samples for research projects are selected from healthcare research, including one quantitative study first introduced in the Adult Education course. Again, integration of knowledge is used as an instructional design device to help these already well educated participants grasp new information in an efficient, effective way.

Team Teaching

The four courses in the Certificate program are team taught. Education faculty usually serve as the team leader (the teacher of record who posts grades, etc.), but faculty from medicine, nursing, public health, and dentistry participate in content organization and in the classroom experience. While we have been vigilant to maintain interdisciplinary balance in our teaching teams, we can not actually control the interdisciplinary balance of the participant groups. But fortunately, perhaps because of good modeling, most courses have included a good balance of medicine, nursing, dentistry, public health and laboratory science.

The ideal situation is when the healthcare faculty and education faculty jointly deliver a class that presents theory and application from multiple perspectives. A successful example of this teaching partnership occurred in the College Teaching course where "education" and "medicine" staged an informal debate on the merits of problem based learning (PBL): Could an entire medical curriculum be based on PBL alone or were core content courses necessary to prepare students for effective problem solving? Exploring that issue allowed course participants to see the relationship between instructional design and specific content delivery.

There are also content areas where it is best for the education faculty member to step aside completely and relinquish teaching to the medical educator. For example, education offers no parallel to teaching a specific psychomotor skill such as drawing spinal fluid. In this case, the experienced clinician must share "tricks of the trade" on how to talk students through their first experience.

The key to success in team teaching across disciplines is prior planning so all team members are clear about their role and the content they will deliver. In our Certificate program, the course calendar describes not only the weekly topics, readings, and assignments, but also which team member will lead each section.

Guest Lectures

In the U of L Certificate program, guest lecturers play a different role than do members of the teaching team. This distinction is made for several reasons. It is easier to develop an interdisciplinary approach if lecturers with specialized knowledge can contribute without being burdened with details of course administration. It does make recruiting these outstanding presenters more practical. For example, the medical library faculty includes several experts on preparing manuscripts for submission to juried publications. Although the lead faculty could discuss the role of publishing in an academic career, the medical librarian is qualified to deliver specific information on selecting the journal in which one hopes to publish, locating guidelines for authors, and information on the type of support a publishing faculty member can expect from the institution.

The use of guest lecturers has been very popular with participants. In some cases, guest lecturers have introduced course participants to issues and support services (such as the Disabilities Resource Center) they did not realize were available at the institution. The point is not simply to orient participants to faculty support services at our institution, but rather to introduce issues and types of support that are generally available to health professions educators. Moreover, for participants who may move on to teach at other institutions, it gives them a set of benchmarks by which they can evaluate future teaching situations.

Program Administration

Administration and support for the program are shared by the College of Education Dean's Office and the Medical School's Office of Medical Education. The U of L experience has proven that as with many other postsecondary interdisciplinary programs, at least a few key administrators must feel a personal sense of ownership or collaborative programs may die of neglect. But once a program has several years' success, it becomes more viable. Success must be shown in measurable terms such as course evaluation results, enrollment and retention, program completions, and faculty team participation. These indicators of success are also important to the Graduate School to maintain the Certificate's viability.

Participant Recruitment

Recruiting participants into the program requires continuing attention because health sciences faculty and graduate students have schedules established far in advance of the typical postsecondary semester. At least two information sessions are presented each summer, the University's daily email newsletter carries information about enrollment, and announcements are made during Grand Rounds and other campus wide events. Word of mouth is also an effective tool--- another reason to make sure participants in the program stay satisfied with the curriculum. Newly hired faculty, new Ph.D. students, and health sciences faculty who have responsibilities in medical education are good candidates for the program. As of spring 2007, newly hired Public Health faculty are required to enroll in the College Teaching course. Hopefully, they will be inspired to take the other three courses in the Certificate program.

Quality Control and Change

The first course in the program, College Teaching, was offered in fall 2003. Fourteen students enrolled and 12 completed the course. The next course offered, Introduction to Research Methods, again began with 14 and ended with 12. However, we experienced a decline in enrollment for the next course, Adult Development and Education, and, by spring 2005, only four students enrolled in the Program Evaluation course. Consequently, that

group was combined with doctoral students taking the standard course in the College of Education (see Table 1).

Program coordinators sought to understand the decrease in participation. The most frequent answer given when participants were asked why they either dropped a course or failed to enroll in the next course was "time." Their schedules were strained, and while they still hoped to complete the certification, they had decided to take a semester or two off. The next most common issue was the course content in ELFH 600, Introduction to Research Methods. The consensus among participants in the course, and the faculty team who delivered it, was that it was too ambitious and had too much content for one semester. Although course participants were, for the most part, well grounded in the scientific method and physical science research, the social science research methodologies introduced in this course were new to them and they felt rushed and pressured.

This type of feedback became an essential component of the curriculum redesign effort when the course was offered again in fall 2006. Faculty met with participants to get a sense of their expectations for the course and with the original faculty team for this course in order to refocus the curriculum.

An additional strategy for maintaining continuity was to analyze all course rosters since the beginning of the program and contact all participants still at the University who had either two or three courses left to complete. A formal letter on Office of Medical Education letterhead was sent reminding them of the Certificate program and which course(s) were needed for them to complete the program. Response to this small campaign was very positive and several former participants returned in fall 2006 or spring 2007.

Monitoring participant progress also revealed that most enrollees were actually taking 3.5 years to complete what was ideally a two year program. Participants were opting out during semesters where they had other pressing obligation such as recertification examinations. Because these events are a real part of healthcare professional schedules, the solution was to place less emphasis on participant cohorts and more on individual participant support.

Participant Reflection on the Program

Participants in the spring 2006 course on Adult Learning and Development were asked to write reflective essays on teaching and learning as part of their summative assessment. Because the Certificate program is only four years old, it is still too soon use teaching evaluations of participants as a measure of program assessment measure. For now, these reflective essays provide helpful insights into how participants believe the courses in the program changed or refined their approach to teaching. (Author note: all comments from these essays are included with the writers' permission.)

One frequent theme was that participants had not realized that there was such an extensive body of research and literature in postsecondary education and instructional design. They now realize that the issues they face in their own classrooms are often universal problems being researched at many levels.

My perspective on dental education issues has changed. I have a better understanding of how my dental students learn and what methods of instruction will be the most efficient, effective, beneficial, and important for the education of oral health providers. However, I have come to the recognition that the pre-doctoral dental program is basically the education of adults rather than adult learning, because it is so skill based. Adult learning, in a more pure sense, arrives post graduation when dentists become self-directed, as evidenced by entry into residency programs or via professional continuing education choices.

Another frequent theme was their delight in learning how to apply various learning theories and design instructional events from the learner point of view.

I think I look at things differently now. I see myself reworking what I presently teach and thinking about the theory behind the content. I enjoy time with the residents and strive to make their time at our site informative and insightful. I talk to my patients and hope I provide empowerment by education. Even though I finished training five years ago, it seems like I am just getting started. But I don't mind feeling like a novice, it is actually pretty exciting.

Conclusion

The Certificate in Health Professions Education at the University of Louisville is not a large project but by using a cycle of course delivery, reflection, and refinement, along with consistent participant recruiting strategies, the program continues to attract students and faculty. Using the already established tuition remission policy has resolved the issue of financing participation. One of the unexpected outcomes is that two of the Certificate participants have recently enrolled in the College of Education in order to complete Masters Degrees to add to their previous degrees. We are also developing strategies to encourage department chairs to provided protected time for faculty who have expressed a desire to follow a career path that includes a major focus on teaching.

Author note:

In addition to articles on the UCLA, UC San Francisco, and University of Washington models, the November 2006 issue of *Academic Medicine* includes several more articles on medical education fellowships.

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